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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,791	12/20/2001	James W. Clark	KCX-391(16284)	9606
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DORITY & MANNING, P.A. POST OFFICE BOX 1449 GREENVILLE, SC 29602-1449			EXAMINER STEELE, JENNIFER A	
			ART UNIT	PAPER NUMBER
			1794	
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			01/05/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/027,791

Applicant(s)

CLARK ET AL.

Examiner

JENNIFER STEELE

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30, 35, 37, 38, 51, 54, 69, 70 and 73-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30, 35, 37, 38, 51, 54, 69, 70 and 73-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 11/11/2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 30, 35, 37, 38, 51, 54, 69, 70, 73-82 rejected under 35 U.S.C. 103(a) as being unpatentable over Harrison et al (US 6,667,289) in view of Sherry (US 6,716,805).** Harrison teaches an aqueous based cleaning composition featuring a low residue deposition, sanitization and/or disinfecting of treated surfaces and good cleaning characteristics. Harrison teaches the cleaning compositions include a
- a. quaternary ammonium surfactant compound having germicidal properties;

- b. a surfactant system which includes at least one amine oxide surfactant and at least one further surfactant selected from carboxylates and N-acryl amino acid surfactants a solvent system,
- c. a solvent system containing an alkylene glycol ether solvent further with a C₁-C₆ alcohol
- d. an alkalizing agent and
- e. water (col. 1, lines 25-54).

Harrison teaches the quaternary ammonium surfactant compound having germicidal properties can be an alkyl dimethyl benzyl ammonium chloride which is equated with the claimed benzalkonium halide. Harrison teaches the desired amount of benzalkonium halide is between 0.001% and about 5% and in the claimed range (col. 4, lines 1-10).

Harrison teaches surfactants of amine oxides (col. 4, lines 15-59) which are known in the art to be nonionic surfactants.

Harrison teaches the amount of nonionic surfactants 0.01 to 1% by weight (col. 4, lines 53-59), as to Applicant's claim 30.

Harrison teaches chelating agents such as ethylenediaminetetraacetic acid may be particularly advantageous and used in minor amounts such as 0-0.5% based on the weight of the composition (col. 8, lines 38-54).

Harrison teaches the cleaning composition can be applied on a wipe such as a nonwoven fabric (col. 12, lines 29-32).

Harrison teaches an alkalizing agent which would result in a pH of greater than neutral or 7. Harrison differs and does not teach the pH of the final composition. Based on the composition and use of an alkalizing agent, one of ordinary skill in the art could have optimized the composition to achieve the desired final pH.

Harrison teaches the cleaning composition is useful to disinfect or clean surfaces and kill *S. aureus* bacteria (col. 14, lines 27-54). Harrison teaches the claimed composition and materials. Harrison teaches the Log 10 reduction of *S. aureus* is between 3.29 to 5.89 in Ex. 1-4, Table 3. Harrison differs and does not teach the composition's Kill Efficiency Ratio which is defined by Applicant as the number of bacterial killed divided by the parts per million of antimicrobial agent added to the original sanitizing formulation. Harrison teaches the same antimicrobial composition and materials as claimed and therefore one of ordinary skill in the art could have optimized the composition to achieve the desired property of Kill Efficiency Ratio.

Harrison differs and does not teach the amount of benzalkonium halide that is released in the solution. As Harrison teaches a composition consisting essentially of a nonionic surfactant(s), benzalkonium halide and ethylenediaminetetraacetic acid, which is the same composition as claimed, it is reasonable to presume that the amount of benzalkonium halide present in the released solution would be the same as the amount claimed.

Harrison differs from the current application and does not teach the add on amount of the sanitizing composition is 150% to 600% of the dry weight of the wiper.

Sherry is directed to pre-moistened wipes (Title), specifically for use on floors, counters and walls (column 35, lines 55 - 69). Sherry teaches the composition includes a nonionic surfactant, an anti-microbial ingredient, and a solvent system.

Sherry teaches that the wipe may comprise low levels of effective anti-microbial ingredients such as BARDAC 2280 (column 37, lines 20 - 30), which according to Applicant's Specification is a benzalkonium halide. Sherry teaches that the anti-microbial may be present in the amount of 0.001 - 0.1% (column 37, lines 25 - 35).

Sherry teaches that the anti-microbial additives are chosen to be effective against gram- positive and gram-negative bacteria and most preferably provide protection against E. Coli and S. Aureus (column 38, lines 15 - 30). Sherry teaches that residual disinfectancy can be achieved or enhanced using pH, preferably using compositions having a pH greater than 10.5 (column 38, lines 30 - 45). Sherry teaches using the wipe in locations such as stove tops and countertops (column 37); the Examiner equates this to use in Applicant's "food service applications".

Sherry teaches the pre-moistened wipe has an optimum wetness from 1 - 5 grams of solution per gram of wipe (column 36, lines 5 - 15), which is equivalent to 100% - 500% of the dry weight of the wiper.

It would have been obvious to employ an amount of sanitizing composition on the wiper in the amount of 150% to 600% motivated to produce a wiper that releases an adequate amount of sanitizing composition to kill residual bacteria in food service applications.

As to claim 37, as noted above, Harrison differs and does not teach the composition's Kill Efficiency Ratio which is defined by Applicant as the number of bacterial killed divided by the parts per million of antimicrobial agent added to the original sanitizing formulation. Harrison teaches substantially the same antimicrobial composition and materials as claimed and therefore one of ordinary skill in the art could have optimized the composition to achieve the desired property of Kill Efficiency Ratio.

As to claim 38 and 51, Harrison differs and does not teach the amount of benzalkonium halide that is released in the solution. As Harrison teaches a composition consisting essentially of a nonionic surfactant(s), benzalkonium halide and ethylenediaminetetraacetic acid combined with an alkalinizing agent, which is the same composition as claimed, it is reasonable to presume that the amount of benzalkonium halide present in the released solution would be the same as the amount claimed.

As to claim 54, Harrison teaches a nonwoven wiper that is comprised of 30-60% wood pulp fibers. Wood pulp fibers are equated with cellulosic fibers.

As to claim 69, Harrison teaches quaternary germicides include compounds which have the structural formula wherein R_2 and R_3 are the same or different C_8 - C_{12} alkyl, or R_2 is C_{12-16} alkyl, C_{8-18} alkylethoxy, C_{8-18} alkylphenolethoxy and R_3 is benzyl and X is halide. Harrison teaches a compound with a benzyl group and an R group of a C_8 - C_{12} alkyl.



As to claim 70, Harrison teaches the sanitizing composition includes a solvent system containing 0.01-6% of propylene glycol n-butyl ether further with 0.01-6% isopropanol. Propylene glycol n-butyl ether and isopropanol are non-aqueous solvents.

As to claim 73, Harrison teaches employing an alkalizing agent in the composition. An alkalizing agent would result in a final pH that is alkaline or in the range of 8-12. Harrison differs and does not teach the final pH of the composition, however one of ordinary skill in the art could optimize the amount of alkalizing agent motivated to achieve the desired final pH.

As to claim 74-81, Harrison teaches a log 10 reduction in pathogenic bacteria for gram negative genus *Enterobacter aerogenes* and gram positive *Staphylococcus aureus* of greater than 5 in Table 3. Harrison does not present test results for the species of *E. coli* alone, however as *Enterobacter aerogenes* is a gram negative type bacteria genus of which *E. coli* is a species, it is presumed that the antimicrobial effect of Harrison's composition would encompass the species of gram negative *E. coli*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the composition to test for antimicrobial efficiency with *S. aureus* and *E. coli* motivated to produce an antimicrobial composition that kills the known bacteria species of *E. coli*.

As to claim 82, Harrison teaches the composition contains water.

3. Claims 30, 35, 37-38, 51, 54, 69, 70 and 73 - 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherry et al. (US 6,716,805) in view of Harrison

(US 6,667,289). Sherry is directed to pre-moistened wipes (Title), specifically for use on floors, counters and walls (column 35, lines 55 - 69). Sherry teaches a cleaning compositions that include

- a hydrophilic polymer (col. 5, lines 45-47)
- a surfactant when the hydrophilic polymer is not present, the preferred surfactants are nonionic surfactants (col. 9, lines 27-32). The surfactant is 0.01 to 0.4% of the composition (col. 11, lines 45-50).
- Optional organic cleaning solvent, optional cosurfactants (col. 11 and 12)
- Mono or polycarboxylic acid (col. 13, line 50)
- Odor control agents (col. 14, line 17)
- Optional peroxide (col. 16, line 39)
- Optional thickener polymer (col. 16, line 63)
- Aqueous solvent system (col. 17, line 10)
- Optional suds suppressor
- Buffers (col. 20, lines 11)
- Preservatives and Antibacterial Agents (col. 20, lines 59-68 and col. 21, lines 1-30) including quaternary ammonium salts and employed in the compositions in amounts of 0.005 to 0.1%. Sherry teaches the quaternary ammonium salts can be BARDAC.TM 2280 (col. 37, lines 25) which is also taught by Applicant specification and is a benzalkonium halide.

The pre-moistened wipe has an optimum wetness from 1 - 5 grams of solution per gram of wipe (column 36, lines 5 - 15), which is equivalent to 100% - 500% of the dry weight of the wiper.

Sherry teaches that the wipe may comprise low levels of effective anti-microbial ingredients such as BARDAC 2280 (column 37, lines 20 - 30), which according to Applicant's Specification is a benzalkonium halide. Sherry teaches that the anti-microbial may be present in the amount of 0.001 - 0.1% (column 37, lines 25 - 35). Sherry teaches that the anti-microbial additives are chosen to be effective against gram-positive and gram-negative bacteria and most preferably provide protection against E. Coli and S. Aureus (column 38, lines 15 - 30).

Sherry teaches that residual disinfectancy can be achieved or enhanced using pH, preferably using compositions having a pH greater than 10.5 (column 38, lines 30 - 45). Sherry teaches using the wipe in locations such as stove tops and countertops (column 37); the Examiner equates this to use in Applicant's "food service applications".

Sherry teaches suitable chelants include ethylenediametetraacetates, citrates and the like can be used in the floor cleaning compositions (col. 41, lines 32-33). Sherry differs and does not teach ethylenediaminetetraacetic acid in the amount of 0.01% to 0.5%.

Harrison teaches chelating agents such as ethylenediaminetetraacetic acid can be used in antimicrobial cleaning compositions and used in minor amounts such as 0-0.5% based on the weight of the composition (col. 8, lines 38-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include ethylenediaminetetraacetic acid motivated to stabilize the solution.

As to claim 35 and 37, Sherry differs from the current application and does not teach the property of Kill Efficiency Ratio. As Sherry teaches the claimed materials and composition, it is presumed the composition of Sherry would possess the claimed antimicrobial efficiency or it would have been obvious to one of ordinary skill in the art to optimized the composition to achieve the desired Kill Efficiency Ratio.

As to claim 35, 38 and 51, Sherry differs and does not teach the amount of benzalkonium halide present in the released solution. As Sherry teaches the same cleaning composition as claimed, it is presumed that the amount of benzalkonium halide released with the cleaning composition would be inherently the same as claimed. Since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the concentration of benzalkonium halide in the released solution in order to create a wipe with optimal biocidal effectiveness.

As to claim 30, Sherry teaches in formulation C that the primary non-ionic surfactant can be present in the amount of 0.005 - 10% and most preferably 0.025 - 4% (column 24, lines 55 - 69).

As to claims 54, Sherry teaches that the non-woven substrate can comprise various types of fibers including various cellulosic fibers such as wood, wood pulp, cotton, jute, hemp, etc (column 26, lines 1 - 25).

As to claims 69, Sherry teaches that the wipe may comprise low levels of effective anti-microbial ingredients such as BARDAC 2280 (column 37, lines 20 - 30), which according to Applicant's Specification meets the formula of the claim.

As to claims 70, Sherry teaches that the composition comprises preferably 0.5 - 5% by weight of non-aqueous solvent (column 25, lines 1 - 25).

As to claims 73, Sherry teaches that the composition has a pH of greater than 10.5 (column 38, lines 30 - 45).

As to claims 74 - 81, although Sherry does not explicitly teach the claimed log reduction for E. Coli, S. Aureus or both is at least about 3 as required by claim 74 and 77 and the log reduction for E. Coli, S. Aureus, or both is at least about 4 as required by claims 75 and 78, the log reduction for E. Coli and S. Aureus is at least about 5 as required by claim 76 and 79.

The wiper of Sherry exhibits an Antimicrobial Reduction that is 99.9% cidal against bacteria for a period of 8 to 72 hours and provide residual disinfectancy (col. 37, lines 40-45). While Sherry differs and does not teach the log reduction of bacteria nor the Kill Efficiency Ratio, it is reasonable to presume that the properties are inherent to Sherry or discovering the optimum or workable ranges involves only routine skill in the art. Support for said presumption is found in the use of like materials (i.e. a nonwoven substrate comprising a composition comprising at least one non-ionic surfactant and

Applicant's specific benzalkonium halide in Applicant's claimed ranges with desired wipe saturation level) which would result in the claimed properties. The burden is upon the Applicant to prove otherwise. In re Fitzgerald 205 USPQ 594. In addition, the presently claimed properties above would obviously have been present once the Sherry product is provided. Note In re Best, 195 USPQ at 433, footnote 4 (CCPA 1977).

As to claim 82, Sherry teaches an aqueous solvent system (col. 17, line 10).

Response to Arguments

4. Applicant's arguments with respect to claim 30, 35, 37, 38, 51, 54, 69, 73-82 have been considered but are moot in view of the new ground(s) of rejection. Applicants amended claim 35 to include ethylenediaminetetraacetic acid in the composition and the 35 USC 103 rejection over Sherry is revised to Sherry in view of Harrison.

5. Applicants argue that the invention of Sherry requires a hydrophilic polymer in the composition and the hydrophilic polymer is essential to the composition. Applicant amended claim 35 to claim the composition "consisting essentially of" the claimed components. The arguments and amendments are not sufficient to overcome the reference to Sherry for the following reason: Sherry teaches that "When the polymer is not present in the composition, compositions will normally have nonionic surfactants" (col. 9, lines 28-32). Sherry is teaching and suggesting that if the hydrophilic polymer is not used, the use of nonionic surfactants is sufficient. While Sherry's embodiments

primarily teach the use of a hydrophilic polymer, Sherry has not excluded compositions that do not include the hydrophilic polymer. Applicant's arguments that the hydrophilic polymer is essential are not persuasive.

6. New 35 USC 103 ground of rejection over Harrison in view of Sherry is presented to show that cleaning and antimicrobial compositions that do not include a hydrophilic polymer and consist essentially of a nonionic surfactant, benzalkonium halide and ethylenediaminetetraacetic acid are known in the art and it would have been obvious to one of ordinary skill in the art to produce the claimed invention.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 1794

/Rena L. Dye/
Supervisory Patent Examiner
Art Unit 1794

12/29/2009